Commonwealth of Kentucky
Division for Air Quality

RESPONSE TO COMMENTS

ON THE TITLE V DRAFT PERMIT NO. V-06-034
SUPERIOR FIBERS – VANCEBURG, LLC
ROUTE 8, BLACK OAK INDUSTRIAL PARK, VANCEBURG, KY 41179
FEBRUARY 2, 2007
JULIAN BRECKENRIDGE, REVIEWER
SOURCE I.D. #: 021-135-00018
SOURCE A.I. #: 2701
ACTIVITY #: APE20060001

SOURCE DESCRIPTION:
Superior Fibers – Vanceburg, LLC (formerly Hollinee, LLC) manufactures cured polyester fiberglass mats. The plant primarily uses two types of resin (styrenated and alcohol based (176 resin)). The first step in the process involves simultaneously applying very fine glass strains and polyester resin to a 12-foot long rotating drum. The glass strains are applied from above the drums by a natural gas fired traveling furnace that moves back and forth along the length of the drum. The binder is applied from behind the drum by a traveling spray nozzle that also moves back and forth with the glass-melting furnace. After the desired amount of binder and glass is applied to drum the uncured mat is manually removed from the drum by cutting the mat lengthwise along the drum. The uncured mat is then rolled up and moved to a staging area for further processing in the curing oven. Next, the uncured mat is unrolled onto the natural gas fired letoff table. The uncured mat is stretched over the letoff table and fed into the natural gas fired curing oven. Emissions from the forming drums are uncontrolled.

Prior to the issuance of the original Title V Permit, Superior Fibers was operating 16 forming drums (No. 001-016) and one curing oven (No. 023). Potential emissions were less than Prevention of Significant Deterioration of air quality (PSD) major source levels at that time. Superior Fibers has installed six new forming drums (No. 017-022) and a new curing oven (No. 024). Each forming drum includes one 0.15 mmBtu/hr natural gas fired glass-melting furnace and one binder spray applicator. The facility became a PSD major source due to the potential emission of VOC. There is no construction associated with permit V-06-034.

All pollutant emissions generated during the production include particulate matter (PM), and primarily volatile organic compounds (VOC), styrene, xylene, formaldehyde, triethylamine and methanol. A wet scrubber controls VOC emissions from the facility. Testing was done on January 26, 2006 for emission unit no. 24 (04), Fiberglass Curing Oven #2. It was performed for particulate matter, total gaseous non-methane organics, and styrene. Emission factors are based on the post-control testing.

The Division of Air Quality (DAQ) acknowledges receipt on May 2, 2006 of a renewal Title V air quality permit application for Superior Fibers – Vanceburg, LLC and an administrative amendment for a name change from Hollinee, LLC to Superior Fibers – Vanceburg, LLC on February 15, 2007. This represents the first renewal of the Title V air permit. Here are the following significant emission points:

Sixteen Existing Forming Drums (EP 001 – 016)
Six New Forming Drums (EP 017 – 022)
Fiberglass Curing Oven #1 (EP 023)
Fiberglass Curing Oven #2 (EP 024)

PUBLIC AND U.S. EPA REVIEW:
On November 21, 2006, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published in *The Lewis County Herald* in Lewis County, Kentucky. The public comment period expired 30 days from the date of publication.

Comments were received from Superior Fibers – Vanceburg, LLC (formerly Hollinee, LLC) on December 13, 2006. Attachment A to this document lists the comments received and the Division's response to each comment. Minor changes were made to the permit as a result of the comments received, however, in no case were any emissions standards, or any monitoring, recordkeeping or reporting requirements relaxed. Please see Attachment A for a detailed explanation of the changes made to the permit. The U.S. EPA has 45 days to comment on this proposed permit.

CREDIBLE EVIDENCE:
This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.

ATTACHMENT A

Response to Comments

Comments on Superior Fibers – Vanceburg, LLC Draft Title V Air Quality Permit submitted by Ron Hansen of GT Environmental, Inc.

Each comment is displayed according to the numbering on the comment page, and the Division's response will follow that comment (See Attachment B for the copy of the Comments on Draft Title V Renewal):

Permit Application Summary Form

1) General: Change permittee name to "*Superior Fibers – Vanceburg, LLC*". In order to facilitate this change in ownership, Superior Fibers will be sending you a revised "Agreement for Administrative Permit Amendment form", "Administrative Information form" and "Certificate of Authority".

Division's response: *comment acknowledged; change has been made.*

2) Permit Application Summary Form: Update the "Emission Summary" table as follows:

Criteria Pollutants	**Actual (tpy)**	**Potential (tpy)**
PM_{10} = PT	29.5	66.9
CO	3.075	6.59
NO_x	3.66	7.84
SO_2	0.0220	0.047
VOC	104.7	314.9
Single HAPs		
Formaldehyde	0.0799	0.412
Methanol	0.00326	0.017
Styrene	31.4	171.5
Triethyl Amine	0.794	4.01
Xylene	14.5	66.7
Combine HAPs	**46.8**	**238.2**

Division's response: comment acknowledged; the table has been revised to the following table at the end of this response. The numbers in the table were generated from Kentucky's Emissions Inventory System (EIS), taken from the DEP7007N forms that you submitted to us in your application. However, an error was discovered in calculating the total emissions of the twenty-two Forming Drums (Emission Unit ID Nos. 001 – 022). Theoretically, in order to account for use of two resins (styrenated and alcohol based (176 resin)) at these affected facilities for achieving maximum operating schedule (8760 hours/year) in determining potential to emit, it was concluded that only one resin can be applied at each facility. Previously, the calculations showed both resins being used at

each facility for a maximum of 8760 hours/year. This was clearly impossible. As a result, our Pollutant of Concern (POC) table and EIS were revised by changing the process rates for the binder applied to the drums. Since these affected facilities were grouped as Sixteen Forming Drums (Emission Unit ID Nos. 001 – 016) and Six Forming Drums (Emission Unit ID Nos. 017 – 022), the process rates were then multiplied by a factor of 8 instead of 16 for the first group and a factor of 3 instead of 6 for the second group.

Criteria Pollutants	**Actual (tpy)**	**Potential (tpy)**
PM_{10} = PT	29.5	63.8
CO	3.075	6.59
NO_x	3.66	7.84
SO_2	0.0220	0.04704
VOC	104.7	371
Single HAPs		
Formaldehyde	0.0799	0.268
Methanol	0.00326	0.0119
Styrene	31.4	100
Triethyl Amine	0.794	2.63
Xylene	14.5	52.7
Combine HAPs	**46.8**	**156**

3) Permit Application Summary Form – Source Description: Replace the last sentence of the 2nd paragraph with "*Emissions generated during the production include particulate matter (PM), and volatile organic compounds (VOC), styrene, xylene, formaldehyde, triethylamine and methanol.*"

Division's Response: comment acknowledged; change has been made.

Statement of Basis

4) Permit Statement of Basis – Source Description: Replace the 1st sentence of the 3rd paragraph with "*Emissions generated during the production include particulate matter (PM), and volatile organic compounds (VOC), styrene, xylene, formaldehyde, triethylamine and methanol.*"

Division's Response: comment acknowledged; change has been made.

5) Permit Statement of Basis – Comment (a): Replace "Emissions Units 001 and 022" with "*Emissions Units 001 through 022*".

Division's Response: comment acknowledged; change has been made.

6) Permit Statement of Basis – Comment (a)(i): Superior Fibers believes the forming drums are fugitive emission sources and should not be subject to particulate matter and visible emissions limitations. Therefore we request that this requirement be deleted. Note, the forming drums are not controlled with a fabric filter or any other type of control

equipment. Superior Fibers requests alternative requirements that would not require Superior Fibers to have an onsite certified VE reader.

Division's Response: comment acknowledged; change was made to the last sentence of Comments a. i. in the Statement of Basis to read, "During periods of normal operation, compliance shall be demonstrated by maximum process rates and emission factors for the particulate matter emission limit and EPA Reference Method 9 for the opacity limit." As far as the request for alternative requirements that would eliminate Superior Fibers from having an onsite certified VE reader, is denied because emissions from Emission Unit ID Nos. 001 – 022 are not classified as fugitive. According to the definition in Section 2 of 401 KAR 63:010, fugitive emissions are the emissions of any air contaminant into the open air other than from a stack or air pollution control equipment exhaust. The emissions from these facilities are emitted through stacks identified as V-2 (General Building Vent) in Section II of the DEP7007N forms from the application received at our office on May 2, 2006.

7) Permit Statement of Basis – Comment (b): Delete the following phrase "*controlled by a conveyor that moves the fiberglass mats into the finishing ovens*". The letoff table does not have a conveyor belt. The fiberglass mats are pulled from the letoff table into the oven.

Division's Response: comment acknowledged; change has been made.

8) Permit Statement of Basis – Comment (b)(i): Superior Fibers requests alternative requirements that would not require Superior Fibers to have an onsite certified VE reader.

Division's Response: comment acknowledged; change has not been made. As far as the request for alternative requirements that would eliminate Superior Fibers from having an onsite certified VE reader, is denied because emissions from Emission Unit ID Nos. 023 (02) and 024 (04) are not classified as fugitive. According to the definition in Section 2 of 401 KAR 63:010, fugitive emissions are the emissions of any air contaminant into the open air other than from a stack or air pollution control equipment exhaust. The emissions from these facilities are emitted through stacks identified as 003 and 004, respectively in Section II of the DEP7007N forms from the application received at our office on May 2, 2006.

9) Permit Statement of Basis – Comment (b)(iii): In the CAM plan included with the Title V renewal application, Superior Fibers proposed to conduct particulate matter testing with the Anderson Unit off line to determine if the uncontrolled particulate matter emissions from each curing oven was greater than 100 tons/yr. If the uncontrolled particulate matter emissions are less than 100 tons/yr then CAM does not apply.

Division's Response: comment acknowledged; revision has been made to read, "The facility has included a CAM plan that is applicable to the curing ovens #1 and #2 at emission units 023 (02) and 024 (04) only if uncontrolled particulate emissions are greater than 100 tpy."

10) Permit Statement of Basis – Comment (b)(iii): Replace the last sentence of this section with "*The particulate emissions of this process operation are controlled by an Anderson Unit that includes an evaporative gas cooler followed by an advancing disposable flat bed filter followed by a Chevron Type demister*".

Division's Response: comment acknowledged; revision has been made to read, "An Anderson Unit that includes an evaporative gas cooler with an advancing disposable flat bed filter along with a Chevron Type demister controls the particulate emissions of this process operation."

11) Permit Statement of Basis – Comment (c): The last sentence of this section is incorrect. Superior Fibers was not a major source (>250 tpy) prior to the facility applying to install 84 new forming drums and one new curing oven. Therefore, Superior Fibers could have increased emissions by an additional 249 tons not 39 tons before triggering PSD permitting requirements.

Division's Response: comment acknowledged; changes have been made. The last sentence of this section was removed. The following statements underlined were added to the 2nd paragraph of the Source Description to read, "Prior to the issuance of the original Title V Permit, Hollinee was operating 16 forming drums (No. 001-016) and one curing oven (No. 023). Potential emissions were less than Prevention of Significant Deterioration of air quality (PSD) major source levels at that time. Hollinee has installed six new forming drums (No. 017-022) and a new curing oven (No. 024). Each forming drum includes one 0.15 mmBtu/hr natural gas fired glass-melting furnace and one binder spray applicator. The facility became a PSD major source due to the potential emission of VOC. There is no construction associated with permit V-06-034."

12) Permit Statement of Basis – Non-Applicable Regulations (401 KAR 51:017), Prevention of Significant Deterioration of Air Quality: Replace "Hollinee is a major PSD source; however, there is no proposed construction or significant emissions increase" with "*Hollinee is a major source but has never proposed a significant net emissions increase*".

Division's Response: comment acknowledged; change has not been made. Superior Fibers became a PSD major source due to the potential emission of VOC.

Draft Permit

13) Furnaces and Binder Spray Applicators – Emission Limitation (b): Replace with "*emission of particulate matter from each forming drum shall not exceed 2.34 lbs/hr*". Note, the process weight rate of each forming drum is 55 lbs/hr.

Division's Response: comment acknowledged; change has been made. Also, Emission Limitation c. has been revised to read, "Refer to Section D."

14) Furnaces and Binder Spray Applicators – Compliance Demonstration Method (b): Update the table as follows:

Emission Point	Binder Applicator Type Resin	Process Weight Rate (tons/hr/drum)	PM Emission Factor (lbs/ton)	PM Allowable Emission Rate (lb/hr/drum)	PM Maximum Emissions (lb/hr/drum)
001 – 022	Styrene	0.0275	181.19	2.34	0.65
	176	0.0275	185.19	2.34	0.65

Division's Response: comment acknowledged; change has not been made. The numbers in the table of the draft permit were generated from the DEP7007B and DEP7007N forms. The process weight rate of 0.00358 is the conversion in ton/hr for the binder spray applicators (7.15 lb/hr).

15) Furnace and Binder Spray Applicators – Specific Monitoring Requirements: Superior Fibers requests alternative requirements that would not require Superior Fibers to have an onsite certified VE reader.

Division's Response: comment acknowledged; change has not been made. See response to comment 8 of Statement of Basis heading.

16) Furnace and Binder Spray Applicators – Specific Recordkeeping Requirements (a): Superior Fibers requests alternative requirements that would not require Superior Fibers to have an onsite certified VE reader.

Division's Response: comment acknowledged; change has not been made. See response to comment 8 of Statement of Basis heading.

17) Curing Ovens with a Letoff Table: The Maximum capacity of emission unit 023(02) and 024(04) should be 4000 lbs/hr each not 520 lbs/hr. The Construction Date for emission unit 024(04) is September 2005 not January 2005.

Division's Response: comment acknowledged; change has been made to construction date for emission unit 024 (04) from January 2005 to September 2005. The maximum capacity of the curing ovens was taken directly from the DEP7007N forms of the same conversion as in the DEP7007B forms of 520 lb/hr.

18) Curing Ovens with a Letoff Table – Emission Limitations (b): Replace with "*emission of particulate matter from each curing oven shall not exceed 5.52 lbs/hr*". Note, the process weight rate of each curing oven is 4,000 lbs/hr.

Division's Response: comment acknowledged; change has not been made. The process weight rate of each curing oven for binder processed is 520 lb/hr or 0.2600 ton/hr as displayed in the DEP7007N forms. Revise and submit new DEP7007B and DEP7007N forms, if the application was incorrect.

19) Curing Ovens with a Letoff Table – Compliance Demonstration Method (b): Update the table as follows:

Emission Point	Binder Applicator Type Resin	Process Weight Rate (tons/hr/oven)	PM Emission Factor (lbs/ton)	PM Allowable Emission Rate (lbs/hr/oven)	PM Maximum Emissions (lbs/hr/oven)
023(02)	Styrene	2.0	0.141	5.52	0.283
	176	2.0	0.141	5.52	0.283
024(04)	Styrene	2.0	0.141	5.52	0.283
	176	2.0	0.141	5.52	0.283

Note, the control efficiency column was deleted because there is no regulatory requirement that imposes a control efficiency.

Division's Response: comment acknowledged; change has not been made. The numbers in the table of the draft permit were based from the DEP7007N forms. Control efficiencies are listed when control devices exist in process operations in order to assist in maintaining good air pollution control practice for minimizing emissions. The control devices at the ovens are pursuant to 50:055, Section 2 (5) also in Section E of the draft permit, that "at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source."

20) Curing Ovens with a Letoff Table – Specific Monitoring Requirements (b): In the CAM plan included with the Title V renewal application, Superior Fibers proposed to conduct particulate matter testing with the Anderson Unit off line to determine if the uncontrolled particulate matter emissions from each curing oven was greater than 100 tons/yr. If the uncontrolled particulate matter emissions are less than 100 tons/yr then CAM does not apply.

Division's Response: comment acknowledged; the statement underlined was added to Specific Monitoring Requirements b. to read, "Pursuant to 40 CFR 64, the permittee has provided the following plan for Compliance Assurance Monitoring (CAM) <u>only if uncontrolled particulate emissions are greater than 100 tons annually</u>:"

21) Curing Ovens with a Letoff Table - Specific Recordkeeping Requirements (b): Superior Fibers requests alternative requirements that would not require Superior Fibers to have an onsite certified VE reader.

Division's Response: comment acknowledged; change has not been made. See response to comment no. 8.

22) Section D(2): Superior Fibers was not a major source (>250 tpy) prior to the facility applying to install 84 new forming drums and one new curing oven. Therefore, Superior Fibers could have increased emissions by and additional 249 tons not 39 tons before

triggering PSD permitting requirements. Superior Fibers proposes to replace this section with the following:

"*Emissions Unit ID Nos. 003 and 004 must retain an emission limit of 112.21 tons/yr to avoid Prevention of Significant Deterioration (PSD) permitting requirements (401 KAR 51:017).*

Each of the six (6) new forming drums included under Emissions Unit ID No. 003 must retain an emission limit of 9 tons/yr of each individual HAP and 22.5 tons/yr of all combined HAP to avoid Case-by-Case MACT requirements (401 KAR 63:002).

Emissions Unit ID No. 004 must retain an emission limit of 9 tons/yr of each individual HAP and 22.5 tons/yr of all combined HAP to avoid Case-by-Case MACT requirements (401 KAR 63:002)."

Division's Response: comment acknowledged; the limit to preclude PSD was an oversight by the Division. An error was discovered in calculating the total emissions of the twenty-two Forming Drums (Emission Unit ID Nos. 001 – 022). Theoretically, in order to account for use of two resins (styrenated and alcohol based (176 resin)) at these affected facilities for achieving maximum operating schedule (8760 hours/year) in determining potential to emit, it was concluded that only one resin can be applied at each facility. Previously, the calculations showed both resins being used at each facility for a maximum of 8760 hours/year. This was clearly impossible. The source-wide potential emissions were less than PSD major source levels before the addition of the new equipment (six new forming drums (No. 017-022) and curing oven (No. 024)). Therefore, no limits are necessary to preclude PSD. Refer to the Statement of Basis regarding non-applicable regulations for MACT requirements. Section D (2) from the draft permit was removed altogether.

23) Section D – Compliance Demonstration: Replace this section with the following:

"*Monthly VOC emissions from Emission Unit ID No. 003 shall be calculated as follows:*

Monthly VOC Emissions (tons) = (0.344 lbs VOC/lbs styrene based resin x lbs styrene based resin used + 0.324 lbs VOC/lbs alcohol based resin x lbs alcohol based resin used) / 2000 lbs/ton

Monthly VOC emissions from Emissions Unit ID No. 004 shall be calculated as follows:

Monthly VOC Emissions (tons) = (0.0208 lbs VOC/lbs styrene based resin x lbs styrene based resin used + 0..0199 lbs VOC/lbs alcohol based resin x lbs alcohol based resin used) / 2000 lbs/ton

Monthly individual HAP emissions from each of the six (6) new forming drums included under Emissions Unit ID No. 003 shall be calculated as follows:

Monthly individual HAP emissions (tons) = (HAP Emission Factor for styrene based resin (lbs HAP/lbs styrenated resin) x lbs styrene based resin used + HAP Emission Factor for alcohol based resin (lbs HAP/lbs alcohol resin) x lbs alcohol based resin used) / 2000 lbs/ton

The HAP emission factors for the styrene based resins are as follows:

Styrene = 0.205 lbs/lbs styrene based resin
Xylene = 0.075 lbs/lbs styrene based resin
Formaldehyde = 0.0000295 lbs/lbs styrene based resin
Methanol = 0.0000195 lbs/lbs styrene based resin

The HAP emission factors for alcohol based resins are as follows:

Formaldehyde = 0.000423 lbs/lbs alcohol based resin
Triethylamine = 0.00411 lbs/lbs alcohol based resin

Monthly individual HAP emissions from Emissions Unit ID No. 004 shall be calculated as follows:

Monthly individual HAP emissions (tons) = (HAP Emission Factor for styrene based resin (lbs HAP/lbs styrenated resin) x lbs styrene based resin used + HAP Emission Factor for alcohol based resin (lbs HAP/lbs alcohol resin) x lbs alcohol based resin used) / 2000 lbs/ton

The HAP emission factors for the styrene based resins are as follows:

Styrene = 0.00919 lbs/lbs styrene based resin
Xylene = 0.00455 lbs/lbs styrene based resin
Formaldehyde = 0.000002 lbs/lbs styrene based resin
Methanol = 0.000001 lbs/lbs styrene based resin

The HAP emission factors for alcohol based resins are as follows:
Formaldehyde = 0.0000265 lbs/lbs alcohol based resin
Triethylamine = 0.000258 lbs/lbs alcohol based resin"

Division's Response: comment acknowledged; change has not been made. No compliance demonstration is necessary since Section D (2) of the draft permit was removed (Refer to the response to comment #22).

24) Section (D)(4): Replace with the following:

"*In addition to the semi-annual reporting required by General Condition F.5 the permittee shall submit quarterly VOC, individual HAP and combined total HAP emissions from Emission Unit ID Nos. 003 and 004.*"

Division's Response: comment acknowledged; change has not been made. No additional reporting is necessary (Refer to the response to comment #22).

ATTACHMENT B

Comments Submitted by Superior Fibers – Vanceburg, LLC